

**Abstract**

In a MIMO system the bit error rate floor caused by time dispersion is reduced by employing a joint minimum mean square error (MMSE) equalizer for all of the respective transmit antenna – receive antenna pairings that are possible in the MIMO system. The resulting joint equalization compensates not only for the impact of the channel on the transmit antenna – receive antenna pairings but also for the interference of the other transmit antennas on any given receive antenna. The joint equalization outperforms simply replicating the prior art minimum mean square error (MMSE) equalizer for each transmit antenna – receive antenna pairings.